DOCUMENT RESUME

ED 471 994 CE 084 385

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TITLE	Patterns of Word Recognition Errors Among Adult Basic Education Native and Nonnative Speakers of English. NCSALL Research Brief.
INSTITUTION	National Center for the Study of Adult Learning and Literacy, Boston, MA.
SPONS AGENCY	National Inst. on Postsecondary Education, Libraries, and Lifelong Learning (ED/OERI), Washington, DC.
PUB DATE	2002-00-00
NOTE	4p.
CONTRACT	R309B60002
AVAILABLE FROM	For full text: http://ncsall.gse.harvard.edu/research/brief_strucker.pdf
PUB TYPE	Information Analyses (070)
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Adult Basic Education; *Adult Literacy; Beginning Reading; Comparative Analysis; Decoding (Reading); Educational Policy; Educational Practices; Educational Research; English; *English (Second Language); *Error Analysis (Language); Instruction; *Literacy Education; *Native Speakers; Research Needs; Second Language Instruction; *Word Recognition

ABSTRACT

The patterns of word recognition errors among native and nonnative speakers of English in adult basic education classes were compared in a study that focused on the 212 of the 676 learners in the Adult Reading Components Study who scored between grade equivalent (GE) 4 and 6 in word recognition. Key findings were as follows: (1) highly similar scores on decoding tests do not necessarily mean that people use similar decoding strategies; (2) the error patterns of native and nonnative English speakers differ; (3) error patterns among nonnative English speakers differ depending on whether exposure to English took place before or after age 12; (4) as readers, the nonnative English speakers more closely resembled normally developing young readers, whereas the native speakers more closely resembled children with learning disabilities. The following were among the study's implications: (1) adult literacy centers should consider offering different approaches to accommodate the needs of different kinds of intermediate readers; (2) teachers must know not only the phonics principles adult learners appear to have mastered but also those that they use automatically when they read; (3) future research should analyze both phonetically regular and nonphonetic words; and (4) a more refined error classification system could be beneficial. (MN)

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Patterns of Word Recognition Errors Among Adult Basic Education Native and Nonnative Speakers of English

A NCSALL Research Brief

Rosalind Kasle Davidson • John Strucker

Adult literacy teachers are usually well aware that learners below grade equivalent (GE) 4 need instruction in word analysis and word recognition. However, they often do not realize that many adults above GE 4 may also need to improve their decoding and fluency if they are to make smooth progress toward higher levels of reading.

In the Harvard Adult Reading Laboratory, we have found that adults at the GE 4 to 6 level make markedly slower progress than those with slightly higher GE 7 to 8 decoding abilities. In addition, studies that have analyzed the word recognition, phonemic awareness, and, in some instances, the spelling abilities of adult literacy students, have focused exclusively on native speakers of English (NSE), even though substantial numbers of nonnative speakers of English (NNSE) are enrolled in adult basic education (ABE).

Possible differences between NSE and NNSE led us to three research questions: Would the pattern of relatively stronger print versus meaning skills in NNSE emerge in the GE 4 to 6 data? Would the pattern of relatively stronger meaning versus print skills in NSE emerge in the GE 4 to 6 data? When matched for word recognition and pseudoword decoding, would the patterns of word recognition errors made by NSE differ from those made by NNSE in the GE 4 to 6 data? We then examined a fourth question: Do the patterns of word recognition errors of NNSE differ depending on whether their exposure to English took place before or after age 12?

Methodology

We focused on the 212 of the 676 learners in the Adult Reading Components Study (ARCS) who scored between GE 4 and 6 in word recognition. The ARCS described the reading of a large sample of adult literacy learners in ways that would be useful to policymakers, practitioners, and curriculum designers. The ARCS battery included a 66-item questionnaire and 17 separate reading assessments, including the following measures used to address our four research questions: Diagnostic Assessments of Reading (DAR), DAR Word Recognition, DAR Silent Reading Comprehension, Word Attack, and Peabody Picture Vocabulary Test-III. The comparisons here are based on secondary analyses of these descriptive data.

Error Analysis

We conducted error analysis on the last and highest level GE of the DAR Word Recognition lists that each participant read. We classified errors in three categories: correct, phonetically plausible substitutions, and phonetically implausible substitutions. To be considered a correct response, all elements corresponding to dictionary pronunciations had to be present, including correct stress and phoneme productions. NSE's regional pronunciation differences were counted as correct, as were NNSE's slight deviations from certain difficult English sounds and short vowel sounds. Phonetically plausible substitutions were those with all phonemes and syllables pronounced in a way that was plausible according to English phonics. Phonetically implausible substitutions included all other miscues that did not result in real words, such as omitting

Key Findings

- Highly similar scores on decoding tests do not necessarily mean people use similar decoding strategies.
- The error patterns of native English speakers and nonnative English speakers differ.
- Error patterns among nonnative English speakers differ depending whether exposure to English took place before or after age 12.
- As readers, the nonnative English speakers in our study more closely resemble normally developing younger readers, whereas the native English speakers more closely resemble children with learning disabilities.

Implications for Practitioners

- Adult literacy centers should consider offering different approaches to accommodate the needs of different kinds of intermediate readers.
- Teachers need to know not only the phonics principles adult learners appear to have mastered but also those they use with automaticity when they read.

Implications for Researchers

- Future research should analyze both phonetically regular and nonphonetic words.
- A more fine-grained error classification system could be beneficial.
- It would be useful to explore whether the word recognition error patterns also emerge in oral reading of connected text.

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syllables or phonemes (e.g., imagative for imaginative, judical for judicial), adding syllables or phonemes (e.g. grugie for grudge, heronic for heroic), or substituting a phonetically implausible syllable or phoneme (e.g, permanate or permanent, traggady for tragedy). This category also included instances when NNSE substituted complete native language pronunciations for English cognates. The final category, substitutions of real English words, included miscues such as immorality for immortality, acquainted for acquaintance, and collaborate for celebrate.

Findings

We found that NSE and NNSE showed different error patterns, even when their word attack (pseudoword) means and distributions were virtually identical. There was no significant difference in the two groups for substitutions of phonetically implausible words. There were differences, however, between NNSE who learned English before and after age 12. Those who learned English after age 12 made 2.3 times as many phonetically plausible substitutions as did those who learned English before age 12, and those who learned before age 12 made 2.9 times as many real-word substitutions as did those who learned after age 12. Taken together with their educational histories, the error patterns of the NNSE who learned English before age 12 indicate that they may have decoding and fluency difficulties similar to those of the NSE.

As might be expected, NSE appear significantly stronger than NNSE in silent reading comprehension. The NNSE had equivalent scores in the print and meaning aspects of reading rather than print skills strength, whereas the native speakers showed greater strength in meaning versus print scores. However, when silent reading comprehension is held constant, the print skills of NSE are significantly lower than the NNSE print skills.

Overall, the NNSE in ABE classes more resemble normally developing younger readers, whereas NSE more resemble children with reading disabilities whose print skills lag behind their meaning skills.

Implications for Instruction

Increasingly, adult literacy centers have come to realize that NSE and NNSE in ABE classes have different needs. NSE tend to need decoding, whereas NNSE need to expand vocabulary. There may be another consideration, however: NSE may know as much phonics as NNSE but may not use what they know.

NSE learners appear to have partial knowledge of phonics and syllable patterns they will need to make further progress, but they must be encouraged to practice to the point of automaticity and to learn any patterns they do not know. They also must use those decoding patterns consistently when reading connected text. The NNSE appear more committed to a phonetic coding strategy. But at this level, they, too, will begin to encounter less familiar phonics patterns and unusual pronunciations. Teachers should be aware that the NNSE exposed to English before age 12, like the native speakers, could be helped by over-learning phonics principles and syllable patterns, and by oral reading practice to improve fluency. And they need to be committed to employing these strategies.

Finally, the results suggest that highly similar achievement scores do not necessarily mean all students within that scoring range use similar decoding strategies for real words. To design effective instruction, teachers who work with GE 4 to 6 adults need to know not only the phonics principles their students appear to have mastered, but also the phonics principles they actually use with automaticity when they read.

Implications for Research

Of the 30 words on the DAR GE 5, 6, and 7 word recognition lists, only one could not be classified as phonetically regular. It would be helpful to know whether the differences we observed between NSE and NNSE error patterns were influenced by the types of words.

We also wonder whether our error classification categories might have influenced the results. Although the real-word substitution category is straightforward, our phonetically plausible category was very strict. A more fine-grained classification system that tracked partially correct or partially plausible errors might prove useful in further understanding the apparent differences in the decoding strategies of NSE and NNSE.

Finally, it would be helpful to explore whether the NSE and NNSE error patterns in word recognition would emerge in oral reading of connected text. Such research might also provide a better window into the word recognition strategies the two groups might be using in silent reading.

Rosalind Kasle Davidson and John Strucker are NCSALL research associates and lecturers at the Harvard Graduate School of Education. For more on this research, see Scientific Studies of Reading, Volume 6, Number 3 (2002).

To learn more about NCSALL reading research and other efforts connecting research and practice to strengthen adult literacy programs, visit http://ncsall.gse.harvard.edu.

The National Center for the Study of Adult Learning and Literacy (NCSALL) is a partnership of the Harvard Graduate School of Education, World Education, the Center for Literacy Studies at the University of Tennessee, Portland State University, and Rutgers University. NCSALL is funded by the Educational Research and Development Centers Program, Award Number R309B60002, as administered by the Office of Educational Research and Improvement/National Institute on Postsecondary Education, Libraries, and Lifelong Learning, U.S. Department of Education.

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